

Amendments to the Specification:

In the English translation document, please add the section heading and paragraph at page 1 line 4, after the title, as follows:

--CROSS REFERENCE TO RELATED APPLICATIONS

This application is the US National Stage of International Application No. PCT/EP2004/011873, filed October 20, 2004 and claims the benefit thereof. The International Application claims the benefits of European application No. 03425705.5 EP filed October 31, 2003, both of the applications are incorporated by reference herein in their entirety.--

In the English translation document, please amend the paragraph at page 1 lines 5-21, as follows:

The present invention relates to the field of the singlecast and multicast of audio-video streaming services in wireless networks ~~having the characteristics recited in the preamble of the claim 1,~~ and more precisely to a procedure for introducing fast end to end transport layer signalling during streaming services in wireless networks. ~~Possible candidate networks are, for example: mobile radio networks of 2.5G, 3G, B3G, 4G generations, WLANs, and PMP networks with Masters and fixed Slave stations. Common restraint of those networks is that sudden changes in the available bandwidth can occur on the radio interface. Multimedia streaming services are delivered either by Internet Service Providers or non-ISP providers, indifferently, although the first seem to be as the most promising ones in the next future. The technical problem addressed by the invention arise when streaming services are provided to wireless (especially mobile) clients.~~

In the English translation document, please replace the section heading at page 10 line 28, as follows:

SUMMARY OF INVENTION

TECHNICAL PROBLEM

In the English translation document, please add the paragraph at page 10 line 29, as follows:

--Possible candidate networks are, for example: mobile radio networks of 2.5G, 3G, B3G, 4G generations, WLANs, and PMP networks with Masters and fixed Slave stations. Common restraint of those networks is that sudden changes in the available bandwidth can occur on the radio interface. Multimedia streaming services are delivered either by Internet Service Providers or non-ISP providers, indifferently, although the first seem to be as the most promising ones in the next future. The technical problem addressed by the invention arise when streaming services are provided to wireless (especially mobile) clients.--

In the English translation document, please amend the paragraph at page 14 lines 7-14, as follows:

The concept of “event” (observed by the receiver) which can trigger the transmission of an RTCP packet earlier then when expected by the original scheduling algorithm can partially overlap with the concept, present in our invention disclosure, of RRs sent with an higher rate in case of critical conditions over the radio interface (~~claim 2~~).

In the English translation document, please amend the paragraphs at page 15 line 11 – page 16 line 3, as follows:

As regards metric block types, it can be observed that the VoIP Metrics Report Blocks, intended to introduce metrics for monitoring Voice over IP (VoIP) calls, (these metrics include packet loss and discard metrics, delay metrics, analog metrics, and voice quality metrics) implicitly make use, in some cases, of the concept of cross layer information flow to create a more effective end to end QoS signaling. This may partially overlap with the concept we introduced in our invention disclosure of an enhanced RR (FRR) containing also information taken from application and data link layer. (~~see claims 4 and 5~~).

Nevertheless, the key concepts of the present application are completely unrelated to the content of the examined document. With more details, the following concepts:

- A novel FS procedure at transport layer level, activated in case of critical radio conditions detected at physical layer at MS side; (~~claim 1, 3, 6~~)
- the concept of Data Link layer triggered and driven Transport Layer end to end signaling, in case of critical radio conditions, detected at Physical Layer;

- the increased RR sending rate in case of critical radio conditions; ~~(claim 2)~~
- the use of an enhanced RR in case of critical radio conditions; ~~(claim 3 and 4 jointly; 3 and 5 jointly);~~

are never mentioned in the document examined.

In the English translation document, please delete the section heading “OBJECT OF THE INVENTION” at page 16 line 4.

In the English translation document, please delete the section heading “SUMMARY AND ADVATNAGES OF THE INVENTION” at page 16 line 4.

In the Amended Specification, please amend the paragraph at page 16 line 22 – page 17 line 11, as follows:

Before illustrating the new signalling, a brief illustration of the background context, ~~according to the preamble of claim 1,~~ is needed. The nearest background is constituted by a wireless network which connects a Service Provider to wireless MS clients for multicasting audio/video streaming services. A Transport Layer between Data Link Layer and Application Layer is comprised in both the protocol stacks at the Service Provider and MS sides. An RTP/RTCP protocol makes the Transport Layer able to support streaming services. During an on going streaming session data messages are carried by RTP and control messages carried by RTCP. The RTCP messages are managed according to a network-driven QoS scheme, such has the one suggested in **Ref.[2]**. It is further known that Data Link Layer continuously monitors the quality of the radio link in order to reach a minimum quality target under supervision of Mobility Management functionality. The quality of the link depends on some parameters that may differ from a system to another. As examples of these parameters we can mention: BER, FER, BLER at Data Link layer; the received signal power level; the interference power level, the C/I ratio etc. For the sake of simplicity these parameter are indicated as P_1, P_2, \dots, P_n .

In the Amended Specification, please amend the paragraph at page 21 line 16 – page 22 line 25, as follows:

The features of the present invention that are considered to be novel are set forth ~~with particularity in the appended claims~~. The invention, together with further objects and advantages thereof, may be understood with reference to the following detailed description of an embodiment thereof taken in conjunction with the accompanying drawings given for purely non-limiting explanatory purposes and wherein:

- **fig.1**, already described, shows a schematic Server/Client representation including relevant communication protocol stacks and interchanged data/signalling messages between stacks, as in the known art referred to a wireless network used by an ISP/CP to transmit audio/video streaming services;
- **figures 2 and 3**, already described, show some curves of possible temporal evolution of relevant critical parameters measured at the MS side of the network of the preceding figure;
- **fig.4** shows a functional block representation of a wireless network wherein the present invention is implementable;
- **figures 5 and 6** differ from **fig.1** by the fact that additional inter-protocol signalling messages and end to end FRRs according to the present invention are shown with increasing details;
- **fig.7** shows the format of FRR packet for the delivering of RTCP FRR message of **fig.6**;
- **fig. 8a** shows the message sequence chart of the control signalling procedure of the present invention in case a cell reselction takes place in the network of **fig.4**;
- **fig. 8b** shows the message sequence chart of the control signalling procedure of the present invention in case of transient worsening on the RF interface of the network of **fig.4**;
- **fig.9a** shows some curves of possible temporal evolution of relevant critical parameters measured at the MS side of the network of **fig.4** which implements the control signalling procedure of **fig. 8a**; and
- **fig.9b** shows some curves of possible temporal evolution of relevant critical parameters measured at the MS side of the network of **fig.4** which implements the control signalling procedure of **fig. 8b**.

In the Amended Specification, please amend the section heading at page 22 line 26, as follows:

DETAILED DESCRIPTION OF ~~AN EMBODIMENT OF~~ THE INVENTION